Monetary Policy in a Supply Constrained Economy

Remarks by
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Good evening. We're pleased to host this year's symposium to talk about a sector of the economy that is particularly important to the region we serve. I very much appreciate your participation and look forward to our discussion.

This year's topic takes a close look at labor market dynamics in the agricultural sector. As the title "Help Wanted in Agriculture" suggests, the availability of workers is a central concern among producers. This is true not only in agriculture but across the wider economy. In my remarks this evening, I'll talk about these labor market challenges in the context of broader economic conditions and will offer an outlook for the economy and for monetary policy.

I should acknowledge at the outset that a centerpiece of any observations about the economy is high inflation. After decades of low and stable prices in the United States, inflation has emerged as a central challenge in the economy. Prices are moving up, and more rapidly than at any point in the recent past. Over the year ending in April, the consumer price index (CPI) rose 8.3 percent, near the fastest pace in 40 years. Steep increases in energy and food prices are reflected in this number, partly attributable to disrupted commodity markets following Russia's invasion of Ukraine. But that is not the full story. Excluding food and energy, prices increased 6.2 percent over the last year, also near a 40-year high.

When inflation first started to pick up in early 2021, a few standout categories of goods seemed to be driving the increase. Prices for cars (new, used, and rented) played a disproportionate role in boosting the overall inflation rate, even as many other categories of consumption showed little price pressure. In fact, inflation at that time was historically dispersed. In the first quarter of 2021, categories of goods and services accounting for about 20 percent of spending recorded inflation rates significantly higher than their previous trends. An even greater share, about 25 percent, were showing rates of inflation significantly below trend. However, by the end of 2021, price pressures had broadened significantly, with almost 50 percent of expenditures recording inflation significantly above previous trends, while the proportion of goods and services with exceptionally weak inflation had collapsed to zero.

The inflation we are now experiencing is obviously both too high and too broad to dismiss. It has become a top priority for the Federal Reserve to return inflation to its 2 percent objective.

How did we get here?

The factors behind the recent increase in prices are fairly straightforward: When demand for goods and services exceeds the economy's ability to supply those goods and services, prices rise. The nature of this demand and supply imbalance, however, poses some challenging issues for policymakers.

As the economy reopened throughout 2021, demand surged, supported by a tremendous amount of policy stimulus. The federal government has provided about $6 trillion of fiscal stimulus since the start of the pandemic. Monetary policy was also very accommodative, as the Federal Reserve cut interest rates to zero and added over $4 trillion to its balance sheet. Together, fiscal and monetary policy provided a massive boost to the economy, encouraging consumers to spend.

And spend they did, particularly on goods. Additional time at home during the pandemic apparently allowed households to identify needs they might not have previously known they had, and demand for kitchen appliances, entertainment systems, and exercise equipment skyrocketed. Although purchases of durable goods have eased after jumping in the first half of last year, they remain about 10 percent above pre-pandemic trends.

The fast recovery of the labor market has also encouraged spending. The economy added a record number of jobs in 2021. In the first four months of this year, a further 2 million jobs were added, about equal to the total number of jobs created in each *full year* of the 2010s. More people working increases incomes and supports higher spending.

With the amount of stimulus injected into the economy, the strength of demand is not particularly surprising. Although the surge in consumption was certainly not a given recalling how uncertain the course of the pandemic remained throughout 2021. What is more surprising, from my perspective, is the underperformance of the supply side of the economy. Even as inflation suggests that the economy is operating far above capacity, practically bursting at the seams, the level of real GDP remains 2½ percent below its pre-pandemic trend, a shortfall equal to a typical year's worth of growth.

The emergence of supply constraints has put the economy in somewhat unfamiliar territory. In the two decades prior to the pandemic, it was widely thought that the primary factor holding back economic growth was weak demand. Underlying this belief was the relative benign nature of inflation over this period, even in the face of historically low global interest rates and low unemployment. An apparently low neutral rate of interest, a level known to economists as r-star, suggested that monetary policy had to work pretty hard just to keep demand in the vicinity of the economy's available supply.

Now supply constraints dominate the economic narrative. What changed? One possibility is that nothing has changed. Perhaps the pre-pandemic economy was closer to full capacity than we realized. However, another possibility is that the pandemic has resulted in persistent, perhaps even permanent, damage to the productive capacity of the economy. This damage could be manifested along a number of dimensions. I'll highlight three: persistent damage to global supply chains, the quick destruction of capacity in the services sector, and long-lasting damage to workforce engagement and labor force participation.

Persistent disruptions to supply chains

The initial shock of the global shutdown in March 2020 tangled the carefully coordinated movement of shipping containers, the lifeblood of global commerce, and disrupted global production networks. Although progress has been made and the line of ships waiting off the shore of Long Beach has diminished, disruptions have migrated to other parts of the supply chain. For example, warehouse space has become scarce in many markets.

Production and capacity have also been affected. The semiconductor shortage and its impact on the automobile sector are well known, but other industries have also been hit by shutdowns. For example, in 2020, following a sharp fall-off in demand for diesel and gasoline, a number of refineries in the United States permanently shut down, lowering domestic refining capacity by 5 percent. This loss of capacity has contributed to the run up in fuel prices this year as remaining capacity is running flat out.

More broadly, the war in Ukraine has disrupted the supply and transportation of many commodities, pushing up prices for energy and food across the world. The international price of crude oil has increased 40 percent since the beginning of the year, as sanctions threaten the flow of oil from Russia, the world's third largest producer and a major exporter. Likewise, the price of natural gas, another key Russian export, has climbed around the world, putting upward pressure on prices for the whole constellation of goods and services for which natural gas is a key input, from electricity to fertilizer.

Similar to energy markets, the prices of many agricultural commodities also surged with the war in Ukraine and have remained very high. The price of wheat, for example, is about double what it was a year ago, but the prices of other major commodities are also considerably higher than last year and much higher than before the pandemic. While the increase in prices has supported incomes in the farm sector, I have heard many contacts in our region describe their angst about rising input costs, or potentially even the availability of some key inputs, such as fertilizer. Alongside strong incomes, the price of farmland in many parts of the country has also set new records, which may be positive for those who own land, but has begun to raise costs substantially for those who rent from one year to the next.

Across the spectrum of these supply constraints is growing concern about the persistence of these issues. As the efficiency of just-in-time production and global networks gives way to the accumulation of unproductive inventories and a preference for resiliency over efficiency, the damage could prove permanent. These effects are compounded by a war that has had a dramatic impact on global commodity markets and offers few signs of near-term resolution.

The quick destruction of capacity in the service sector

A second factor pointing to supply-side damage can be found in the service sector of the economy. Transportation and production bottlenecks have been particularly important for explaining the upward movement in goods prices, but recently services prices have also been picking up. The 12-month change in services prices (excluding energy) reached 4.9 percent in April, the fastest pace in over 30 years. In April alone, services prices increased 0.7 percent, also a 30-year high. This jump is particularly notable because service price inflation is normally stable month-to-month. Over the past three decades, for example, 70 percent of the time the monthly changes in services prices have hovered between 0.2 or 0.3 percent.

The increase in services price inflation is occurring despite continued weakness in the sector. Consumption of services only returned to pre-pandemic levels in the first quarter of this year, and, if we were to extend the pre-pandemic trend growth rate, services consumption is 4 percent below where it might have been. Given apparent slack in the services sector, why are prices moving up so strongly? It could be that excess capacity in the services sector disappeared much more quickly than we might have anticipated, so that even with subpar output the sector is not actually operating with much slack. Lack of labor supply is clearly part of the story (and one I'll discuss later) but this sector saw capacity destruction early on.

The pandemic recession was different from most recessions in that demand for services was hit particularly hard while demand for goods skyrocketed. Typically, the consumption of goods falls more steeply than services with downward pressure on prices as slack opens up in the economy. What we may be seeing in the current services-led recession is a much quicker adjustment of available capacity than in a typical recession. Lower fixed costs in the services industry may have allowed firms to quickly eliminate excess capacity in reaction to a steep fall in demand.

To provide a concrete example, let's look at the market for haircuts. The real consumption of haircuts has decreased by over one-third relative to pre-pandemic levels, a decline likely initially attributable to social distancing and then later to the relaxed grooming standards associated with working from home.

Given a traditional understanding of the economy, with fixed costs to adjusting capacity, this sharp falloff in demand for haircuts should have resulted in a tremendous amount of slack in the hairdressing industry and downward pressure on prices. However, the price of haircuts has not declined, but rather recorded some of the largest increases in decades. Post-pandemic, haircut inflation has been running at about a 5 percent pace, the fastest pace in 40 years and about twice the pre-pandemic average.

Why would prices rise with this sharp drop in demand? It appears that the industry reacted quickly to the fall in demand and cut capacity. Employment in the industry is down 15 percent from pre-pandemic levels and has shown little movement in recent months. Interestingly, there has been a large increase in the number of establishments, both barber shops and beauty salons, but only locations with less than 5 employees. The number of larger establishments with more than 5 employees has fallen off sharply.

A similar, more publicized, dynamic has played out in the air travel industry. After plunging in the initial months of the pandemic, air travel has bounced back but remains almost 10 percent below pre-pandemic levels. However, airfares have increased robustly over the past year and are now close to 15 percent higher than their pre-pandemic level. The industry quickly cut capacity after air travel plummeted in the spring of 2020 and increasing capacity with the revival of demand has been difficult.

Continuing labor market frictions

The inability of the service sector to quickly add capacity is intrinsically related to the third factor holding back the supply side of the economy: continued frictions in the labor market. By many metrics, the labor market appears to be unusually tight. The unemployment rate, at 3.6 percent, is close to a historic low. The number of posted job vacancies is the highest on record, as is the pace at which workers are quitting their jobs, an indicator of a hot labor market as workers are more likely to quit when alternative opportunities are abundant. Speaking to contacts in the region, hiring and retaining workers is an acute challenge. Yet, notwithstanding the apparent tightness of the labor market, employment remains over 1 million workers short of pre-pandemic levels and considerably further below the pre-pandemic trend. What explains this gap? I will highlight two dynamics weighing on the labor force: lagging labor force participation and a significant step down in the pace of immigration.

In April, the percentage of the working age population participating in the labor force was 1.2 percentage points lower than before the pandemic. Controlling for population growth and aging, this implies a gap of about 2 million workers relative to pre-pandemic levels.[1] Earlier in the recovery, prime age women made up a disproportionate number of the missing workers, possibly due to disruptions to childcare arrangements. More recently, prime age participation has rebounded to close to pre-pandemic levels, such that the largest contributors to the current gap in participation are workers older than 65. Participation for the 65-plus age group fell off sharply with the pandemic and has not shown much recovery, perhaps as fears of illness lessened the desire to work and this was a feasible option as rising asset values boosted retirement wealth.

Another factor contributing to the tight labor market has likely been a significant fall off in the number of immigrants. This issue is often highlighted by our regional contacts in the agricultural sector and other parts of the economy. Immigration started to move down in 2016 and then fell off sharply during the pandemic. If immigration had continued at its earlier trend for the previous five years, estimates suggest there would be an additional 3 million immigrants, many of whom would have joined the workforce.[2]

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[1] See Tuzemen, "How Many Workers are Truly 'Missing' from the Labor Force?" Economic Bulletin, May 6, 2022.
[2] See Cohen and Shampine, "Immigration Shortfall May be a Headwind for Labor Supply" Economic Bulletin, May 11, 2022.

Where do we go from here?

With these thorny supply side issues affecting the economy, what role does monetary policy play? Certainly, monetary policy cannot fix supply shocks. But monetary policy does play an important role in addressing the imbalances between supply and demand. With inflation high, monetary policy must act to dampen the pace of demand growth, bringing demand into alignment with supply and relieving pressure on prices.

On the supply side, for example, faster increases in production, perhaps as supply chains continue to untangle or as a greater number of workers return to the labor force, could relieve pressure on prices as monetary policy tightens. Conversely, even further disruptions to production, from continued lockdowns in China or further fallout from the Ukraine war, could add to inflation pressures and require a stronger monetary policy response.

On the demand side, if, as appears increasingly likely, the war proves a major drag on global growth, or if Covid lockdowns substantially dent growth in China, then lower demand might take some of the heat out of inflation. However, an important wildcard in the outlook for demand is the trillions of dollars of excess savings sitting in household bank accounts. These savings represented a reassuring buffer early on. Now with demand hot and persistent supply constraints, an abundance of liquid checking deposits could potentially make the Federal Reserve's job of cooling demand more challenging.

Considerations for the path of policy

With inflation at a 40-year high and the unemployment rate near record lows, the stance of monetary policy has belatedly shifted to the removal of accommodation. A series of interest rate increases combined with significant reductions in asset holdings are underway. However, with real inflation-adjusted interest rates still deeply negative and the balance sheet twice its pre-pandemic size, questions about the path of policy are prevalent. I will provide some context on how I am thinking about these questions.

The responsiveness of the economy to changes in the interest rate can be difficult to predict in part because it is likely to vary over time. For example, with consumption skewed towards durable goods, which tend to be more interest-sensitive than other components of spending, it is possible that higher rates will have a more pronounced impact on demand and inflation than observed in the past. On the other hand, high levels of liquidity in the economy and healthy household balance sheets might make consumption less reactive to higher interest rates.

Fed policymakers have emphasized a commitment to act expeditiously to restore price stability, and I expect that further rate increases could put the federal funds rate in the neighborhood of 2 percent by August, a significant pace of change in policy settings. Balance sheet reduction plans will also be underway as a tightening mechanism, with financial markets far more unsettled currently than in 2017, when the Fed last initiated a rundown in the size of its balance sheet. Communicating about our policy path to avoid introducing any further uncertainty can ensure progress in significantly reducing the size of the balance sheet and lessening the central bank's footprint in financial markets. Evidence that inflation is clearly decelerating will inform judgments about further tightening.

The central bank's job is to prevent persistent imbalances from feeding into inflation and unmooring inflation expectations. By influencing interest rates, the Federal Reserve primarily affects the demand side of the imbalance. The evolution of its efforts alongside other factors will affect the course of monetary policy, requiring continuous and careful monitoring.